WHAT IS CLAIMED IS:

1. A communication setup method for an electronic device employing wireless communications, comprising the steps of:

outputting, via wireless communications from the electronic device, a first connection request signal based on a connection setup with a first wireless communication device;

outputting, via wireless communications from the electronic device, a second connection request signal based on a connection setup with a second wireless communication device, when a response signal to the first connection request signal cannot be received; and

establishing wireless communication between the electronic device and the second wireless communication device based on a first communication setup, when a response signal to the second connection request signal is received by the electronic device.

2. A method according to claim 1, wherein the connection setup with the first wireless communication device contains an identifier of the first wireless communication device, and the connection setup with the second wireless communication device contains an identifier of the second wireless communication device.

3. A method according to claim 1, wherein the first communication setup contains IP address setup information of the electronic device and a

communication application setup used for communication with the second wireless communication device.

4. A method according to claim 1, wherein when the response signal to the second connection request signal is received by the electronic device, an authentication process is executed with the second wireless communication device via wireless communications.

5. A method according to claim 1, further comprising the steps of:

outputting, via wireless communications from the electronic device, the first connection request signal based on the connection setup with the first wireless communication device when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value; and

establishing wireless communication between the electronic device and the first wireless communication device based on a second communication setup, when the response signal to the first connection request signal is received by the electronic device.

6. A method according to claim 1, further comprising the steps of:

outputting, via wireless communications from the electronic device, a third connection request signal based on a connection setup with a third wireless

communication device when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value; and

establishing wireless communication between the electronic device and the third wireless communication device based on a third communication setup, when a response signal to the third connection request signal is received by the electronic device.

7. A method according to claim 1, wherein at least one of the connection setup with the first wireless communication device, the connection setup with the second wireless communication device and the first communication setup is stored in a storage device associated with the electronic device.

8. A method according to claim 5, wherein the second communication setup is stored in a storage device associated with the electronic device.

9. A method according to claim 6, wherein at least one of the connection setup with the third wireless communication device and the third communication setup is stored in a storage device associated with the electronic device.

10. A method according to claim 6, wherein the third communication setup is the same as the second communication setup.

11. A communication setup method for an electronic

device employing wireless communications, comprising the steps of:

acquiring a beacon frame via wireless communications; and

comparing information of the beacon frame with connection setups of a plurality of wireless communication devices; and

establishing wireless communication with at least one of the plurality of wireless communication devices based on a communication setup, when the information of the beacon frame matches at least one of the connection setups of the plurality of wireless communication devices.

12. A method according to claim 11, wherein the connection setups respectively contain identifiers of the plurality of wireless communication devices.

13. A method according to claim 11, wherein the communication setup contains IP address setup information of the electronic device, and a communication application setup used for communication with the at least one of the plurality of wireless communication devices.

14. A method according to claim 11, wherein the connection setups are stored in a storage device associated with the electronic device.

15. A method according to claim 11, wherein the communication setup is stored in a storage device

associated with the electronic device.

16. A communication setup method for an electronic device employing wireless communications, comprising the steps of:

acquiring, via wireless communications, a first beacon frame transmitted by a first wireless communication device and a second beacon frame transmitted by a second wireless communication device;

comparing information of the first beacon frame with a first connection setup of a wireless communication device;

comparing information of the second beacon frame with the first connection setup, when the information of the first beacon frame does not match the first connection setup; and

establishing wireless communication with the second wireless communication device based on a first communication setup, when the information of the second beacon frame matches the first connection setup.

17. A method according to claim 16, wherein the first connection setup contains an identifier of the second wireless communication device.

18. A method according to claim 16, wherein the first communication setup contains IP address setup information of the electronic device, and a communication application setup used for communication with the second wireless communication device.

19. A method according to claim 16, further comprising the steps of:

when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value,

acquiring the first beacon frame via wireless communications;

comparing the information of the first beacon frame with a second connection setup; and

establishing wireless communication with the first wireless communication device based on a second communication setup, when the information of the first beacon frame matches the second connection setup.

20. A method according to claim 16, further comprising the steps of:

when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value,

acquiring, via wireless communications, a third beacon frame transmitted by a third wireless communication device;

comparing information of the third beacon frame with a third connection setup; and

establishing wireless communication with the third wireless communication device based on a third

communication setup, when the information of the third beacon frame matches the third connection setup.

21. A method according to claim 16, further comprising the steps of:

when reception of the second beacon frame from the second wireless communication device does not meet predetermined criteria,

acquiring the first beacon frame via wireless communications;

comparing the information of the first beacon frame with a second connection setup; and

establishing wireless communication with the first wireless communication device based on a second communication setup, when the information of the first beacon frame matches the second connection setup.

22. A method according to claim 16, further comprising the steps of:

when reception of the second beacon frame from the second wireless communication device does not meet predetermined criteria,

acquiring, via wireless communications, a third beacon frame transmitted by a third wireless communication device;

comparing information of the third beacon frame with a third connection setup; and

establishing wireless communication with the third wireless communication device based on a third

communication setup, when the information of the third beacon frame matches the third connection setup.

23. A method according to claim 16, wherein at least one of the first connection setup and the first communication setup are stored in a storage device associated with the electronic device.

24. A method according to claim 19, wherein at least one of the second connection setup and the second communication setup are stored in a storage device associated with the electronic device.

25. A method according to claim 20, wherein at least one of the third connection setup and the third communication setup are stored in a storage device associated with the electronic device.

26. A method according to claim 20, wherein the third communication setup is the same as the second communication setup.

27. A communication setup method for an electronic device employing wireless communications, comprising the steps of:

acquiring a first beacon frame via wireless communications;

comparing information of the first beacon frame with a first connection setup used to establish connection with a first wireless communication device;

comparing the information of the first beacon frame with a second connection setup used to establish

connection with a second wireless communication device, when the information of the first beacon frame does not match the first connection setup; and

establishing wireless communication with the second wireless communication device based on a first communication setup, when the information of the first beacon frame matches the second connection setup.

28. A method according to claim 27, wherein the first communication setup contains IP address setup information of the electronic device, and a communication application setup used for communication with the second wireless communication device.

29. A method according to claim 27, further comprising the steps of:

when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value,

acquiring a second beacon frame via wireless communications, which is different from said first beacon frame;

comparing information of the second beacon frame with the first connection setup; and

establishing wireless communication with the first wireless communication device based on a second communication setup, when the information of the second beacon frame matches the first connection setup.

30. A method according to claim 27, further comprising the steps of:

when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value,

acquiring a second beacon frame via wireless communications, which is different from said first beacon frame;

comparing information of the second beacon frame with the first connection setup;

comparing the information of the second beacon frame with a third connection setup used to establish connection with a third wireless communication device, when the information of the second beacon frame does not match the first connection setup; and

establishing wireless communication with the third wireless communication device based on a third communication setup, when the information of the second beacon frame matches the third connection setup.

31. A method according to claim 27, further comprising the steps of:

when reception of the first beacon frame from the second wireless communication device does not meet predetermined criteria,

acquiring a second beacon frame via wireless communications, which is different from said first

beacon frame;

comparing information of the second beacon frame with the first connection setup; and

establishing wireless communication with the first wireless communication device based on a second communication setup, when the information of the second beacon frame matches the first connection setup.

32. A method according to claim 27, further comprising the steps of:

when reception of the first beacon frame from the second wireless communication device does not meet predetermined criteria,

acquiring a second beacon frame via wireless communications, which is different from said first beacon frame;

comparing information of the second beacon frame with the first connection setup;

comparing the information of the second beacon frame with a third connection setup used to establish connection with a third wireless communication device, when the information of the second beacon frame does not match the first connection setup; and

establishing wireless communication with the third wireless communication device based on a third communication setup, when the information of the second beacon frame matches the third connection setup.

33. An electronic device comprising:

a wireless communication interface for outputting a first connection request signal based on a first connection setup used to establish connection with a first wireless communication device, and for outputting a second connection request signal based on a second connection setup used to establish connection with a second wireless communication device when a response signal to the first connection request signal cannot be received;

wherein when a response signal to the second connection request signal is received via said wireless communication interface, said wireless communication interface establishes communication with the second wireless communication device via said wireless communication interface based on a communication setup.

34. A device according to claim 33, wherein the communication setup contains IP address setup information of the electronic device, and a communication application setup used for communication with the second wireless communication device.

35. A device according to claim 33, wherein the wireless communication interface comprises a controller for determining when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value, and

wherein when said controller determines that the

field strength falls below the predetermined threshold value,

said wireless communication interface outputs a third connection request signal based on a third connection setup used to establish connection with a third wireless communication device, and

wherein when a response signal to the third connection request signal is received,

said wireless communication interface establishes wireless communication with the third wireless communication device based on a second communication setup.

36. A device according to claim 33, further comprising a storage device for storing at least one of the first connection setup, the second connection setup, and the communication setup.

37. An electronic device comprising:

a wireless communication interface for acquiring a first beacon frame transmitted by a first wireless communication device and a second beacon frame transmitted by a second wireless communication device; and

a processor programmed for comparing information of the first beacon frame with a connection setup for establishing connection with a wireless communication device, and for comparing information of the second beacon frame with the connection setup when the

information of the first beacon frame does not match the connection setup;

wherein when the information of the second beacon frame matches the connection setup, communication is established with the second wireless communication device based on a communication setup.

38. A device according to claim 37, wherein the communication setup contains IP address setup information of said electronic device, and a communication application setup used for communication with the second wireless communication device.

39. A device according to claim 37, wherein the wireless communication interface comprises a controller for determining when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value, and

wherein when said controller determines that the field strength falls below the predetermined threshold value,

a third beacon frame transmitted by a third wireless communication device is acquired via said wireless communication interface,

said processor compares information of the third beacon frame with a second connection setup, and

when the information of the third beacon frame matches the second connection setup, establishes

communication with the third wireless communication device based on a second communication setup.

40. A device according to claim 37, wherein the wireless communication interface comprises a controller for determining if reception of the second beacon frame from the second wireless communication device does not meet predetermined criteria, and

wherein when said controller determines that reception of the second beacon frame does not meet the predetermined criteria,

a third beacon frame transmitted by a third wireless communication device is acquired via said wireless communication interface,

said processor compares information of the third beacon frame with a second connection setup, and

when the information of the third beacon frame matches the second connection setup, establishes communication with the third wireless communication device based on a second communication setup.

41. An electronic device comprising:

wireless communication interface means for outputting a first connection request signal based on a first connection setup used to establish connection with a first wireless communication device, and for outputting a second connection request signal based on a second connection setup used to establish connection with a second wireless communication device when

a response signal to the first connection request signal cannot be received;

wherein when a response signal to the second connection request signal is received via said wireless communication interface means, said wireless communication interface means establishes communication with the second wireless communication device via said wireless communication interface means based on a communication setup.

42. A device according to claim 41, further comprising storage means for storing at least one of the first connection setup, the second connection setup, and the communication setup.

43. A device according to claim 41, wherein the communication setup contains IP address setup information of the electronic device, and a communication application setup used for communication with the second wireless communication device.

44. A device according to claim 41, further comprising means for determining when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value, and

wherein when said determining means determines that the field strength falls below the predetermined threshold value,

said wireless communication interface means

outputs a third connection request signal based on a third connection setup used to establish connection with a third wireless communication device, and

wherein when a response signal to the third connection request signal is received,

said wireless communication interface means establishes wireless communication with the third wireless communication device based on a second communication setup.

45. An electronic device comprising:

wireless communication interface means for acquiring a first beacon frame transmitted by a first wireless communication device and a second beacon frame transmitted by a second wireless communication device; and

comparing means for comparing information of the first beacon frame with a connection setup for establishing connection with a wireless communication device, and for comparing information of the second beacon frame with the connection setup when the information of the first beacon frame does not match the connection setup;

wherein when the information of the second beacon frame matches the connection setup, communication is established with the second wireless communication device based on a communication setup.

46. A device according to claim 45, wherein the

communication setup contains IP address setup information of said electronic device, and a communication application setup used for communication with the second wireless communication device.

47. A device according to claim 45, further comprising means for determining when a field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value, and

wherein when said determining means determines that the field strength falls below the predetermined threshold value,

a third beacon frame transmitted by a third wireless communication device is acquired via said wireless communication interface means,

said comparing means compares information of the third beacon frame with a second connection setup, and

when the information of the third beacon frame matches the second connection setup, the wireless communication interface means establishes communication with the third wireless communication device based on a second communication setup.

48. A device according to claim 45, further comprising means for determining if reception of the second beacon frame from the second wireless communication device does not meet predetermined criteria, and

wherein when said determining means determines

that reception of the second beacon frame does not meet the predetermined criteria,

a third beacon frame transmitted by a third wireless communication device is acquired via said wireless communication interface means,

said comparing means compares information of the third beacon frame with a second connection setup, and

when the information of the third beacon frame matches the second connection setup, the wireless communication interface means establishes communication with the third wireless communication device based on a second communication setup.